

# **SUPERVISE PLATOON COMPLIANCE WITH HOST NATION, FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS**

Subcourse EN 5708

## **EDITION B**

United States Army Engineer School  
Fort Leonard Wood, Missouri 65473

5 Credit Hours

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## **SUBCOURSE OVERVIEW**

This subcourse addresses platoon leadership and compliance with host nation (HN), federal, state, and local environmental laws and regulations while participating in a field training exercise (FTX). This course is designed to provide platoon leaders with the knowledge, skills, and abilities necessary to supervise compliance with host nation, federal, state, and local environmental laws and regulations. This course will provide first-line supervisors with the ability to develop and implement unit and organizational programs in support of existing installation policies. Platoon leaders must demonstrate knowledge of unit and environmental issues while—

- Completing an environmental risk management work sheet.
- Conducting an environmental self-assessment.
- Integrating environmental training issues into the training management cycle.

Work must be accomplished in a manner consistent with environmental laws and regulations.

The completion of Army Correspondence Course Program (ACCP), Subcourse Engineer (EN) 5707 is a prerequisite for this subcourse.

This subcourse reflects the current doctrine when this subcourse was prepared. In your work situation, always refer to the latest official publications.

Unless otherwise stated, the masculine gender of singular pronouns is used to refer to both men and women.

TERMINAL LEARNING OBJECTIVE:

- ACTION: You will learn to supervise a platoon's compliance with HN, federal, state, and local environmental laws and regulations while conducting an FTX.
- CONDITION: You will be given the material in this subcourse and an ACCP examination response sheet.
- STANDARD: You must achieve a minimum of 70 percent on the subcourse examination to demonstrate competency of this task.

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EN 5708 Edition B Examination

## LESSON 1

### PLANNING

#### OVERVIEW

##### LESSON DESCRIPTION:

This lesson describes what is included in the planning phase of training and operations and how environmental considerations are a part of the decision-making process.

##### TERMINAL LEARNING OBJECTIVE:

- ACTION:** You will learn the military decision-making and risk assessment processes required in environmental planning.
- CONDITION:** You will be given the material contained in this lesson
- STANDARD:** You will correctly answer all practice exercise questions at the end of the lesson.
- REFERENCES:** The material contained in this lesson was derived from Army Regulation (AR) 200-2; Field Manuals (FM)s 3-100.4, 100-14 and 101-5; and Television Tape (TVT) 5-56.

#### INTRODUCTION

Every day, leaders make decisions that impact the environment. These decisions affect natural and cultural resources entrusted to the Army and can have serious environmental and legal consequences for the decision makers. The military's inherent responsibility to the nation is to protect and preserve its environmental resources. Risk management is an effective process to assist in preserving these resources. Platoon leaders identify actions that may negatively impact the environment and take the appropriate steps to prevent or mitigate damage. This lesson illustrates how to use the risk management process to assess and manage an environmental-related risk during planning, training, and operations.

**1-1. Military Decision-Making Process (MDMP).** The MDMP is a single, established, and proven analytical process. The MDMP is a tool that assists the commander and his staff in developing estimates and a plan. The commander and his staff examine a battlefield situation and reach logical decisions. The process helps them apply thoroughness, clarity, sound judgment, logic, and professional knowledge to reach a decision.

**1-2. Critical Steps of the Military Decision-Making Process.** The MDMP model contains seven steps (see *Table 1-1*), each of which incorporates environmental considerations.

**Table 1-1. Steps in the MDMP**

Step 1.	Receipt of Mission.
Step 2.	Mission Analysis.
Step 3.	COA Development.
Step 4.	COA Analysis.
Step 5.	COA Comparison.
Step 6.	COA Approval.
Step 7.	Orders Production.

**1-3. Mission Receipt.** The staff prepares for the mission analysis immediately on receipt of a warning order (WO) by gathering the tools needed to perform a mission analysis. These tools include the following:

- The environmental appendix or annex from higher headquarters (HQ) order or plan.
- The maps of the area to help the commander assess likely areas for significant environmental considerations.
- The commander's or HQ standing operating procedures (SOPs).
- The appropriate documents and references, applicable HN agreements, Department of Defense (DOD) overseas environmental-baseline guidance documents (OEBGDs), or similar instructions or guidance.
- Any existing staff estimates as well as any applicable lessons learned or after-action report (AAR) materials.

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**1-4. Mission Analysis.** Platoon leaders should develop a generic list of environmental considerations and associated requirements in their respective area(s) to add to the general guidelines given in FM 101-5, Appendix A. The mission analysis has 17 subordinate steps. While this process results in the staff formally briefing the commander, there may be items of such importance to the commander and to the formulation of the commander's guidance that they need to be brought to the commander immediately rather than withheld until the formal briefing. Anticipation, prior preparation, and a trained staff are the keys to a timely mission analysis. Use the following mission analysis steps:

**Step 1.** Analyze the higher HQ order. The commander and his staff thoroughly analyze the higher HQ order and identify guidance on environmental considerations. If confused by the higher HQ order or guidance, the staff must seek clarification immediately. While there is generally a specific annex or appendix on environmental considerations in the higher HQ order, it is not the only source of guidance. Coordinating instructions or guidance from other leaders may also contain information that is critical to environmental considerations.

**Step 2.** Conduct the initial intelligence preparation of the battlefield (IPB). The IPB is a systematic, continuous process of analyzing the threat and the effects of the environment on the unit. It identifies facts and assumptions that determine a likely threat course-of-action (COA). The IPB supports the commander and his staff and is essential to developing estimates and performing decision-making. Environmental considerations may make it prudent to focus some of the IPB support to assist in site selection for units moving into an operational area. Environmentally

sensitive areas are defined in FM 101-5-1 as environmental areas of interest. Environmental areas of interest include natural and man-made structures, such as waste treatment plants and dams.

**Step 3.** Determine the specified, implied, and essential tasks. The staff analyzes higher HQ orders to determine which environmental considerations should be specified, implied, and essential tasks. The mission determines if environmental considerations are essential tasks. For example, if the mission is focused on response to a natural or man-made emergency, it is more likely that environmental considerations will be important.

**Step 4.** Review the available assets. The commander and his staff examine additions to and deletions from the current task organization, support relationships, and status (current capabilities and limitations) of all units. They consider the relationship between specified and implied tasks and available assets. From this information, they determine whether they have the assets to perform all the specified and implied tasks. If there are shortages, they identify additional resources needed for mission success. Current subordinate unit capabilities to deal with environmental considerations may be limited. If environmental considerations require expertise that is not organic to the commander's unit or subordinate units, it is critical that those issues be raised.

**Step 5.** Determine the constraints. A higher commander normally places some constraints on subordinate commanders to restrict their freedom of action. Environmental considerations may also place constraints on an operation. The commander and his staff must identify and understand these constraints, which will normally be found in the scheme of the maneuver, the concept of operations, and the coordinating instructions. The commander ensures that the critical environmental constraints are prominent in the body of the order and not relegated to an annex or appendix.

**Step 6.** Identify the critical facts and assumptions. The staff gathers two categories of information concerning the assigned task—facts and assumptions. Facts are statements of known data concerning the situation, including enemy and friendly dispositions, available troops, unit strengths and materiel readiness. Assumptions are suppositions about the current or future situation that are assumed to be true in the absence of facts. They take the place of necessary, but unavailable facts and fill the gaps with what the commander and his staff know about a situation. An assumption is appropriate if it meets the tests of validity and necessity. Validity means the assumption is likely to be true. "Assuming away" potential problems, such as weather, environmental considerations, or likely enemy options, would result in an invalid assumption. Necessity is whether or not the assumption is essential for planning. If planning can continue without the assumption, it is not necessary and should be discarded. When possible, assumptions are cleared with the higher HQ to ensure that they are consistent with the higher HQ plan. Assumptions are replaced with facts as soon as possible. The mission may require significant environmental considerations. In this case, the facts and assumptions regarding environmental considerations may assume a preeminent position in the planning process.

**Step 7.** Conduct risk assessment. The commander and his staff identify accident risk hazards and make an initial assessment of the risk level for each hazard. The commander also makes an initial assessment of where to take tactical risks. While the focus of risk assessment is on tactical risk, significant issues for accident risk with respect to the environment are also considered.

**Step 8.** Determine the initial commander's critical information requirements (CCIR). The CCIR identifies information needed by the commander to support battlefield visualization, to make critical decisions, and especially to determine or validate a COA. They help the commander filter information by defining what is important to mission accomplishment. Environmental considerations that may be part of the CCIR include the protection of cultural/historical sites, water sources, hazardous waste (HW)/polluted industrial sites, or other significant safety considerations.

**Step 9.** Determine the initial reconnaissance annex. Based on the IPB and the CCIR, the staff, primarily the Intelligence Officer [United States (US) Army] (S2), identifies gaps in the intelligence and develops an initial reconnaissance and surveillance plan to acquire information based on the available reconnaissance assets. This may include acquiring the support of outside agencies and HQ. Special requests for environmental information on environmental considerations and concerns critical to the operation are included in the initial IPB and CCIR.

**Step 10.** Plan the use of available time. The commander and his staff refine their initial plan for the use of available time. They compare the time needed to accomplish the essential tasks according to the higher HQ timeline to ensure that the mission is accomplished in the allotted time.

**Step 11.** Write the restated mission. The executive officer (XO) or the Operations and Training Officer (US Army) (S3) prepares a restated mission for the unit based on the mission analysis. The restated mission includes on-order missions; be-prepared missions are in the concept of operations. Environmental considerations may be addressed in the restated mission, especially if the unit mission is to respond to a forest fire, a flood, or another natural or man-made disaster.

**Step 12.** Conduct a mission analysis briefing. The staff briefs the commander on its mission analysis if time permits. Relevant conclusions about the environmental considerations, drawn from the mission analysis, help the commander and his staff develop a shared vision of the requirements for the upcoming operation.

**Step 13.** Approve the restated mission. Immediately after the mission analysis briefing, the commander approves the restated mission. Once approved, the restated mission becomes the unit's mission. If environmental considerations are crucial to the mission, they may become a part of the restated mission.

**Step 14.** Develop the initial commander's intent. The commander's intent is a clear, concise statement of what the force must do to succeed with respect to the enemy and the terrain and to achieve the desired end state.

**Step 15.** Issue the commander's guidance. After the commander approves the restated mission and states the intent, he provides the staff with enough additional guidance (preliminary decisions) to focus their activities while planning the operation. This is the location for the commander's guidance on environmental considerations. In the case of combat operations, most environmental considerations will take a relative back seat to other considerations, as greater environmental risk is likely to be taken.

**Step 16.** Issue a warning order. Immediately after the commander provides guidance, the staff sends subordinate and supporting units a WO. The staff ensures that the risk guidance includes pertinent environmental considerations.

**Step 17.** Review facts and assumptions. Ideally, initial mission analysis will identify and quantify most of the likely environmental considerations. During the rest of the decision-making process, the commander and his staff periodically review the available facts and assumptions. New facts may alter the requirements and analysis of the mission. Assumptions may have become facts or invalid. Whenever the facts or assumptions change, the commander and his staff assess the impact of these changes on the plan and make the necessary adjustments. The discovery of additional environmental considerations is likely as the planning progresses and the reconnaissance information is collected.

**1-5. Course-of-Action Development.** After receiving guidance, the staff develops COAs for analysis and comparison. During the COA development, the commander and his staff continue the risk management process. Usually, environmental considerations will be most prominent in meeting the criteria of suitability and acceptability. The staff develops the COAs to accomplish the mission and to meet the commander's guidance with respect to the environmental considerations.

**1-6. Course-of-Action Analysis.** A war game helps the commander and his staff to focus on each stage of the operation in a logical sequence. Every staff member must determine the force requirements for external support, the risks, and the strengths and weaknesses of each COA. Determining the evaluation criteria is probably the most important step of war gaming for environmental considerations. If environmental considerations are prominent enough, they are included in the commander's guidance and intent, as well as in the specified criteria for the level of residual risk for accident hazards in the COA. It is a requirement for staff officers to conduct risk management for each COA. Every COA must clearly identify the level of risk that the commander is willing to accept; include those risks associated with the environmental considerations.

**1-7. Course-of-Action Comparison.** The environmental considerations will normally be included in the general criterion of "residual risk," or may be a separate criterion if they are significant enough. If any environmental consideration was important enough to be in the commander's guidance or intent, it will be listed here as well.

**1-8. Commander's Decision Briefing.** After completing its analysis and comparison, the staff identifies its preferred COA and makes a recommendation. If the staff cannot reach a decision, the XO decides which COA to recommend at the commander's decision briefing. The staff then briefs the commander. Critical environmental considerations have become one of the criteria in the decision matrix.

**1-9. Course-of-Action Approval.** Critical environmental considerations may be listed in the commander's guidance or intent. Those will be factors in the commander's approval of a particular COA.

**1-10. Orders Production.** Staff officers address the environmental concerns. Each officer addresses those concerns in the respective annexes and appendixes.

**1-11. Environmental-Specific Planning.** Environmental-specific planning focuses on providing units with the additional environmental-related resources and information necessary to accomplish their missions. Operational and support planning also includes environmental-protection objectives. In operational situations, whether for training, contingency operations, or combat, environmental planning focuses on the mission requirements of a military unit. This planning includes identifying environmental risks posed by an operation and considering ways to reduce those risks during long-, short-, and near-

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term planning. Units require facilities, training areas, and support systems that must be managed to secure long-term availability. Environmental-support planning is, by nature, long term.

**1-12. Operational Planning.** Operational planning usually begins with a formal staff estimate as a part of the MDMP. However, operational planning may entail a separate study on the characteristics of the area of operations (AO) or an informal review of the environmental considerations and the issues contained in the higher HQ operation plan (OPLAN) or operation order (OPORD).

**1-13. Staff Planning.** Staffs conduct environmental planning within the context of the mission. Their efforts produce information that helps units understand environmental requirements of the mission. Most often, staffs develop this information in the form of staff estimates, environmental-protection levels, and an environmental-baseline survey (EBS).

**1-14. Staff Estimates.** Individual staff officers incorporate environmental considerations into their staff estimates. The staff estimate may include the following:

- Significant environmental weaknesses and sensitivities in the AO.
- Potential enemy environmental targets.
- Critical or unique resources to the area.
- Environmental-conditions related to the situation.
- Applicable laws and regulations.

Staffs identify environmental weaknesses and critical terrains that may be a factor to be avoided, actively protected, or temporarily exploited to accomplish the mission. They identify potential enemy environmental targets and plan contingency responses. The following environmental factors normally require consideration during staff estimates:

- Topography, soils, and vegetation (including crops).
- Air quality.
- Wildlife and livestock.
- Archaeological and historical sites.
- Safety and public health.
- Land and facility use, occupation, and return.
- Water quality (including surface water, groundwater, storm water, and wetlands).
- Hazardous material (HM) and HW disposal and potential cleanup requirements.
- Socioeconomic and political condition sensitivities and desired end states pertaining to, or functions of, environmental-conditions.

**1-15. Protection Levels.** The staff develops an OPORD, an OPLAN, or a contingency plan (CONPLAN) and may publish a full environmental annex/appendix (only once). To facilitate changes in environmental requirements, the command may produce an environmental-protection level matrix similar to the example in *Table 1-2*. This matrix ties directly into risk assessment and is applied in the MDMP during mission analysis step 7.

**Table 1-2. Notional, Environmental-Protection Matrix Example**

Environmental-Protection Level					
Waste Management		Level 1	Level 2	Level 3	Level 4
	Human waste	Consult unit SOP	Place in a slit trench	Place in a burnout latrine	Place in a sanitary sewer
	Solid waste	Consult unit SOP	Incinerate or bury	Incinerate	Place in a landfill
	Medical waste	Consult unit SOP	Collect, consolidate, or dispose of in the field	Use US-or-HN approved disposal methods	Use US-or-HN approved disposal methods
	HW	Consult unit SOP	Collect, consolidate, or dispose of in the field	At a unit collection point. Classify, label and dispose of HW	Use RCRA or HN procedures.
HM	HM	Consult unit SOP	Report spills that may contaminate water	Track and report spills over 50 gallons	Refer to the spill prevention and response teams
Natural Resources	Water	Consult unit SOP	Consult unit SOP	Control erosion	Ensure no degradation of water due to erosion or effluent.
	Vegetation	Consult unit SOP	Restrict camouflage use	Obtain joint task force (JTF) to clear in excess of 100 acres	Perform an environmental assessment before conducting operations.
	Air	Consult unit SOP	Suppress dust (hazardous only)	Control open fires and fugitive dust	Control incineration and traffic
	Wildlife	Consult unit SOP	Consult unit SOP	Note and avoid specific habitats	Do not take species
Cultural and Historical Resources	Cultural and Historical Resources	Consult unit SOP	Minimize damage, if possible	Obtain division-level approval for operations in the area	Obtain JTF approval for operations in the area

**1-16. Notional Array of Protection Levels.** Standard levels of environmental-protection facilitate planning, communications, and flexibility. The notional array of protection levels in *Figure 1-2* ranges from Level 1 to Level 4. Level 1 is less restrictive and more appropriate for tactical units in combat. Level 4 is very restrictive and more appropriate for tactical units in garrison, on fixed installations,

during major training exercises, or while performing humanitarian missions in relatively secure and developed areas. Levels 2 and 3 are intermediate steps between the baseline and optimal levels. Staffs may use a matrix to designate protection requirements for specific missions or areas, to clearly identify and quickly notify units of changes, or to notify newly arriving units of the rules in the AO.

**1-17. Environmental-Baseline Survey.** Many operations require fixed facilities, structures, or other real property for logistics, command and control (C<sup>2</sup>), administration, communications, billeting, base camp, or other mission purposes. If the tactical situation permits, commanders conduct or direct an initial EBS before occupying the AO. The initial EBS serves as a tool to assist in determining whether a parcel of land is acceptable for military use. The initial question should always be whether the site is healthy for soldiers. The initial EBS documents the proposed site's existing environmental-conditions and the likelihood of past or ongoing activities that may have created environmental, safety, or health problems. These problems include contamination of air, soil, groundwater, and surface water by toxic substances or petroleum, oils, and lubricants (POL).

**1-18. Initial and Closure Environmental-Baseline Survey.** EBS documentation becomes extremely important at the end of the mission or upon completion at a facility. At that time, a closure EBS is done. Examples of areas to be addressed in an EBS are listed below. A complete list may be found in FM 3-100.4, Chapter 2.

- Property description and condition.
- Soil type and land cover.
- Water supply and source.
- Air quality.
- Signs of contamination.

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**1-19. Environmental-Conditions Report.** As soon as time and conditions permit, a more formal or updated EBS and site assessment may be completed. The periodic use of environmental-conditions reports (ECRs) will assist the unit in both maintaining environmental standards and documenting their stay at a site/area.

**1-20. Unit Planning.** Staffs integrate environmental-protection into planning for larger units. Unit leaders integrate environmental-protection into unit planning for battalion and company-level units. Unit planning includes SOPs, OPORDs, risk management plans, and training plans.

**1-21. Standing Operating Procedures.** Unit leaders develop SOPs reflecting environmental-protection considerations for routine tasks and activities. SOPs provide information to soldiers on how to accomplish routine tasks in an environmentally sound manner. SOPs incorporate local requirements. As local requirements change, unit leaders update their SOPs. Unit leaders ensure that the SOPs comply with local requirements by coordinating with the higher HQ staff.

**1-22. Orders or Plans.** Unit leaders address environmental-protection in their plans and orders, including WOs, OPORDs, OPLANs, CONPLANs, and fragmentary orders (FRAGOs). The higher HQ staff develops an environmental appendix or annex to its OPORD, OPLAN, and CONPLAN. Subordinate unit leaders draw environmental information from the environmental appendix to the OPORD, OPLAN, and CONPLAN.

**1-23. The Risk Management Process.** FM 101-5 describes risk management as the process of detecting, assessing, and controlling risks arising from operational factors and balancing risks with the mission benefits. Risk management is an integral part of the MDMP. FMs 100-14 and 3-100. 4 outline the risk management process and provides the framework for making risk management a routine part of planning, preparing, and executing an operational mission and every day tasks. Assessing environmental-related risks is part of the total risk management process. Knowledge of environmental factors is key to planning and decision making. With this knowledge, leaders quantify risks, detect problem areas, reduce the risk of injury or death, reduce property damage, and ensure compliance with the environmental laws and regulations. Platoon leaders should conduct risk assessments before conducting any training, operations, or logistical activities.

**1-24. Tactical Risk and Accident Risk.** When assessing the risk of hazards in operations, the commander and his staff must look at tactical and accident risk.

a. Tactical risk is concerned with hazards that exist because of the presence of either the enemy or an adversary, thus involving the considerations of force protection. For example, during the Gulf War, the enemy's demolition of oil fields created a significant health and environmental hazard to the surrounding countryside and to those units maneuvering through the area.

b. Accident risk includes all operational risk considerations other than tactical risk. It includes risk to friendly forces and risk to civilians by an operation, as well as the impact of operations on the environment. Examples of environmental-related accident risk are improper disposal of HW, personnel that are not properly trained to clean up a spill, and units maneuvering in ecologically sensitive terrain.

c. Tactical risk and accident risk may be diametrically opposed. The commander may choose to accept a high level of environmental-related accident risk to reduce the overall tactical risk.

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**1-25. Legal and Regulatory Responsibilities.** Risk management does not convey authority to deliberately disobey local, state, national, or HN laws and regulations. It does not justify ignoring the regulatory restrictions and the applicable standards or bypassing the risk controls required by the law. As described in AR 200-2, the National Environmental Policy Act (NEPA) requires federal agencies, including the military, to consider the environmental consequences of their proposed actions before making decisions. The level of environmental considerations exercised depends on the scope of the action, the extent of public interest, and the potential for environmental impacts. NEPA concerns are generally installation or operational-level unit considerations. Leaders should consult installation and operational staff on NEPA-related issues.

**1-26. Environmental Benefits of Risk Management.** Risk management assists the commanders in complying with the environmental regulatory and legal requirements and operating within the higher commander's intent. Risk management provides the leaders with a tool to do the following:

- Identify applicable environmental standards, laws, and rules of engagement (ROE) that affect the mission.
- Identify alternate COAs or alternate standards that meet the intent of the law and the operational requirements.
- Identify feasible and effective control measures where specific standards do not exist.

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- Ensure better use of limited resources (such as training areas and ranges).
- Ensure the health and the welfare of the soldiers and other affected personnel.
- Minimize or eliminate the damage to natural and cultural resources.

**1-27. Risk Management Principles.** Commanders use the following three risk management principles (described in FMs 100-14 and 3-100.4) to guide environmental-risk decision making:

- Integrate risk management into mission planning, preparation, and execution.
- Make the risk decisions at the appropriate level in the chain of command.
- Accept no unnecessary risk.

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**1-28. Five-Step Process.** Knowledge of environmental factors is key to planning and decision making. With this knowledge, leaders quantify risks, detect problem areas, reduce the risk of injury or death, reduce property damage, and ensure compliance with the environmental laws and regulations. The five steps identify specific environmental considerations that the commander and his staff must consider.

**Step 1.** Identify the environmental hazards. Commanders and staffs identify environmental hazards during mission analysis. FMs 100-14 and 3-100. 4 define hazards as any actual or potential condition that can cause injury, illness, or death to personnel; damage to or loss of equipment or property; or mission degradation. Environmental hazards include all the activities that may pollute, create negative noise-related effects, degrade archaeological/cultural resources, or negatively affect threatened or endangered species' habitats.

**Step 2.** Assess environmental hazards to determine risk. Risk assessment is a three-stage process to determine the risk of potential harm to the environment. The three stages are assess the probability of each hazard, assess the severity of each hazard, and determine the risk level of each hazard.

- Assessments include two factors—probability and severity. Probability is how often an environmental hazard is likely to occur. Severity is the effect a hazard will have expressed in terms of the degree of injury or illness, loss of or damage to the equipment or property, the environmental damage, and other mission-impairing factors (such as the loss of combat power).
- Probability and severity are estimates that require individual judgment and a working knowledge of the risk management process and its terminology. Leaders must assess the probability and the potential severity of environmental damage. Platoon leaders use common sense, past evaluations, higher commander guidance, historical data, lessons learned, and any other useful sources to determine the probability of an event occurring. Severity, however, attempts to quantify the amount of potential damage created by an event. While leaders must assess the probability of environmental damage, they must also determine how much damage the event would cause, regardless of the probability.
- It is usually easier to determine the probability than the severity. Definitions for the degrees of severity are not absolute; they are conditional and related to the mission, enemy, terrain, troops, time available, and civilian consideration (METT-TC). Leaders

must use their experience, judgment, lessons learned, and subject matter experts (SMEs) to assist them in determining degrees of severity. The following examples of severity for archaeological, historical, or cultural sites provide leaders with a frame of reference for what may be included when estimating degrees of severity (see *Table 1-3*).

- o **Catastrophic.** Irreparable damage to or total loss of an irreplaceable site. Commanders can anticipate widespread public concern. Such damage will require notification of the higher HQ, public affairs, and outside agencies.
- o **Critical.** Major physical damage to a historical/cultural structure. Restoration will be difficult, long-term, and costly and will require assistance and notification of the higher HQ, public affairs, and outside agencies.
- o **Marginal.** Minor physical damage to historical/cultural structures, which can be restored with outside assistance. Units must report damage to the higher HQ.
- o **Negligible.** Surrounding site damage from individual and vehicular activities will be easily repaired or restored by the unit. There is no physical damage to structures; however, the unit must report damage to the higher HQ.

**Table 1-3. Hazard Severity Definitions**

Severity Rating	Definition
Catastrophic (I)	Loss of ability to accomplish the mission or near mission failure, death or permanent total disability (accident risk), loss of or damage to major property (facility) damage, severe (strategic) environmental damage, mission-critical security failure, unacceptable collateral damage.
Critical (II)	Significantly (severely) degraded mission capability or unit readiness, permanent partial disability, temporary total disability exceeding 3 months time (accident, risk), extensive (major) damage to equipment or systems, significant damage to property or the environment, security failure, significant collateral damage.
Marginal (III)	Degraded mission capability or unit readiness; minor damage to equipment, systems, property, or the environment; lost days due to injury or illness, not exceeding 3 months (accident risk).
Negligible (IV)	Little or no adverse impact on mission capability, first aid or minor medical treatment (accident risk), slight equipment or system damage but fully functional and serviceable, little or no property or environmental damage.

- A leader determines the risk level of each hazard. Then, using the defined degrees of probability and severity and the risk assessment matrix, the leader determines the overall environmental-related risk level. The risk categories are as follows:
  - o **Extremely high (E).** Mission failure if hazardous incidents occur during mission. There is a frequent or likely probability of catastrophic loss (IA or IB) or a frequent probability of critical loss (IIA).
  - o **High (H).** Significantly degraded mission capabilities in terms of the required mission standards. Degradation of a mission includes not accomplishing all parts of the mission, not completing the mission to standard (if hazards occur during the mission), occasional to seldom probability of a catastrophic loss (IC or ID), a likely to occasional probability of a critical loss (IIB or IIC) occurring with material and

soldier system, or a frequent probability of marginal (IIIA) losses.

- o **Moderate (M).** Expected degraded mission capabilities in terms of the required mission standard. Degradation may include reduced mission capability (if hazards occur during the mission) or an unlikely probability of catastrophic loss (IE). The probability of a critical loss occurring is seldom (IID). Marginal losses occur with a probability of no more often than likely (IIIB or IIIC). Negligible losses are a frequent probability.
- o **Low (L).** Expected losses have little or no impact on accomplishing the mission. The probability of a critical loss is unlikely (IIE), while that of a marginal loss is seldom (IIIB through IIIE).
- Using the defined degrees of probability and severity, an individual can determine the overall environmental-related risk level from the intersection of the two in the risk assessment matrix shown in *Table 1-4*.

**Table 1-4. Risk Assessment Matrix**

Risk Assessment Matrix					
Severity	Probability				
	Frequent (A)	Likely (B)	Occasional (C)	Seldom (D)	Unlikely (E)
<b>Catastrophic (I)</b>	E	E	H	H	M
<b>Critical (II)</b>	E	H	H	M	L
<b>Marginal (III)</b>	H	M	M	L	L
<b>Negligible (IV)</b>	M	L	L	L	L

**Step 3.** Develop controls and make risk decisions. Controls eliminate or reduce the probability or severity of each hazard, thereby lowering the overall risk. Controls can include educational, physical, or avoidance actions. Many environmental risk controls are simply extensions of good management, operations security (OPSEC), and leadership practices. Once all feasible risk control measures are in place, some risks will always remain. This residual risk requires the leaders' attention. Platoon leaders inform their chain of command of the residual risk and its implications on the operation. However, the commander alone decides whether or not to accept the level of risk.

**Step 4.** Implement controls. Inform subordinates (down to the individual soldiers) of risk control measures. State how each control will be implemented, and assign the responsibility. This preparation requires the leaders to anticipate the environmental requirements and incorporate them into long-, short-, and near-term planning. The key to success is identifying the "who, what, where, when, and how" aspects of each control.

**Step 5.** Supervise and evaluate. The leaders continuously monitor the controls throughout the operation to ensure their effectiveness and to modify the controls as required. They also make on-the-spot corrections, evaluate individual and collective performance, hold those in charge accountable, and require that all tasks be performed to the applicable environmental standards. Leaders ensure that the AAR process includes an evaluation of the environmental-related hazards, controls, soldier performance, and leader supervision.

**1-29. Risk Management Work Sheet.** The risk management work sheet (*Figure 1-1*) is a tool that leaders may use to track and document risk. It also provides a logical starting point to track the process. Planners use the work sheet to document the risk management steps taken during planning, preparation, and execution of all training and combat missions and tasks. It is important to remember that this form can be used to track all the risk, not just the environmental-related risk. *Table 1-5* outlines how to use the risk management work sheet.

<b>A. Mission or Task:</b>		<b>B. Date/Time Group</b> Begin: End:		<b>C. Date Prepared:</b>	
<b>D. Prepared By (Rank, Last Name, Duty Position):</b>					
<b>E. Task:</b>	<b>F. Identify Hazards:</b>	<b>G. Assess Hazards:</b>	<b>H. Develop Controls:</b>	<b>I. Determine Residual Risk:</b>	<b>J. Implement Controls:</b>
			SAMPLE		
<b>K. Determine the overall mission/task risk level after controls are implemented (circle one):</b> LOW (L)    MODERATE (M)    HIGH (H)    EXTREMELY HIGH (E)					

**Figure 1-1. Sample Risk Management Work Sheet**



**Table 1-5. Instructions for Risk Management Work Sheet**

<b>Work Sheet Instructions</b>	
Block	Description
A-E	Self-explanatory.
F	Identify hazards. Identify hazards by reviewing METT-TC factors for the mission or task. Additional factors include historical lessons learned, experience, judgment, equipment characteristics and warnings, and environmental considerations.
G	Assess hazards. Assessment includes historical lessons learned, intuitive analyses, experience, judgment, equipment characteristics and warnings, and environmental considerations. Determine initial risk for each hazard by applying the risk assessment matrix. Enter the risk level for each hazard.
H	Develop controls. Develop one or more controls for each hazard to either eliminate the hazard or reduce the risk (probability and/or severity) of each hazardous incident. Specify who, what, where, when, and how for each control. Enter the controls.
I	Determine residual risk. Determine the residual risk for each hazard by applying the risk assessment matrix. Enter the residual risk level for each hazard.
J	Implement controls. Decide how each control will be put into effect or communicated to the personnel who will make it happen (written or verbal instruction: tactical, safety, garrison SOPs, rehearsals). Enter the controls.
K	Determine overall mission/task risk. Select the highest residual risk level and circle it. This level becomes the overall mission or task risk level. The commander decides whether the controls are sufficient to accept the residual risk. If the risk is too great to continue the mission or task, the commander directs development of additional controls or modifies, changes, or rejects the COA.
N/A	Supervise and evaluate. This last step is not on the work sheet. Plan how each control will be monitored for implementation (continuous supervision, spot checks), and reassess hazards as the situation changes. Determine if the controls worked and if they can be improved. Communicate lessons learned.

**1-30. Summary.** It is essential to include environmental considerations early and throughout the planning cycle. Leaders use risk assessment to estimate the impact of their unit activities on the natural environment and to identify environmental-related safety issues for their soldiers. Knowledge of environmental factors is the key to planning and decision making. Risk management does not convey authority to deliberately disobey local, state, national, and HN laws and regulations. Risk management assists commanders in complying with environmental regulatory and legal requirements and operating within the higher commanders' intent. Unit leaders should complete risk assessments before conducting training, operations, or logistical activities. Risk assessments assist leaders and their staffs to identify potential environmental hazards, make risk decisions, develop controls, implement those controls, and ensure proper supervision and evaluation.

## LESSON 1

### PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you complete the exercise, check your answers with the answer key that follows. If you answered any item incorrectly, review the part of the text that contains the portion involved.

1. The seven steps of the MDMP include which of the following?
  - A. Mission analysis
  - B. COA comparison
  - C. Orders production
  - D. All of the above
2. What is the focus of environmental planning?
  - A. Providing units with the additional environmental-related resources and information necessary to accomplish their missions
  - B. Studying the characteristics of the AO
  - C. Reviewing the environmental considerations and the issues contained in the higher HQ OPLAN
  - D. None of the above
3. What is an EBS?
  - A. A generic list of environmental considerations and concerns
  - B. A process that assists the commander and his staff to estimate and plan
  - C. A tool to assist in determining whether a parcel of land is acceptable for military use
  - D. Loss of ability to accomplish the mission
4. Give an example of a tactical risk.
  - A. Improper disposal of HM
  - B. The enemy's demolition of oil fields during the Gulf War
  - C. Poorly trained personnel cleaning up a spill
  - D. Units maneuvering in ecologically sensitive terrain
5. The \_\_\_\_\_ identifies specific environmental considerations the commander and his staff must consider.
  - A. Initial and closure EBS
  - B. Risk management process
  - C. MDMP
  - D. Five-step process

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## **LESSON 1**

### **PRACTICE EXERCISE**

#### **ANSWER KEY AND FEEDBACK**

1. The seven steps of the MDMP include which of the following?  
D. All of the above (para 1-2)
2. What is the focus of environmental planning?  
A. Providing units with the additional environmental-related resources and information necessary to accomplish their missions (para 1-11)
3. What is an EBS?  
C. A tool to assist in determining whether a parcel of land is acceptable for military use (para 1-17)
4. Give an example of a tactical risk.  
B. The enemy's demolition of oil fields during the Gulf War (para 1-24a)
5. The \_\_\_\_\_ identifies specific environmental considerations the commander and his staff must consider.  
D. Five-step process (para 1-28)

**LESSON 2**  
**TRAINING**  
**OVERVIEW**

LESSON DESCRIPTION:

This lesson discusses the US Army's environmental considerations in training.

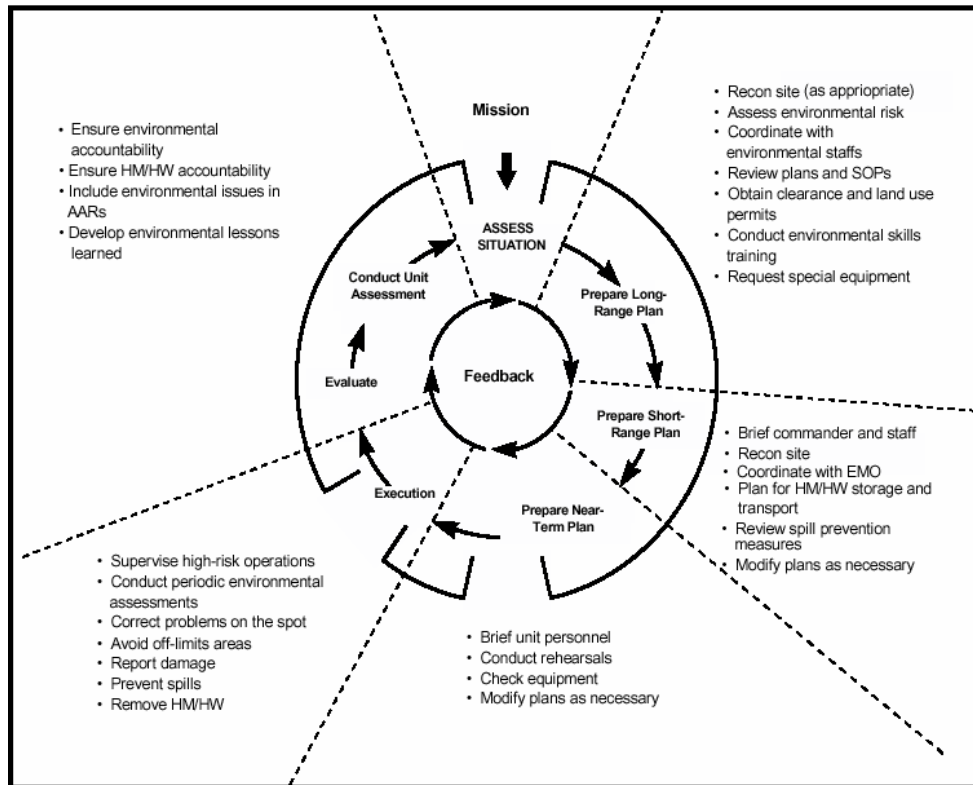
TERMINAL LEARNING OBJECTIVE:

- ACTION:** You will learn methods to integrate environmental considerations into the training management cycle (TMC).
- CONDITION:** You will be given the material contained in this lesson.
- STANDARD:** You will correctly answer all the practice exercise questions at the end of the lesson.
- REFERENCES:** The material contained in this lesson was derived from FMs 3-100.4, 7-10, and 25-101, training circular (TC) 3-34.489, and TVT 5-56.

**INTRODUCTION**

The integration of environmental considerations into training is very similar to the integration of safety and force protection issues. In fact, environmental considerations are a critical aspect of both realistic training and force protection. The discussion of battle-focused training highlights the integration of environmental considerations throughout the training cycle.

**2-1. Battle-Focused Training.** Battle-focused training is a concept used to derive peacetime training requirements from wartime missions. It is addressed further in FMs 7-10 and 25-101 and shown in *Figure 2-1*. Training is the cornerstone of readiness for the military and focuses on wartime missions. Environmental considerations are less preeminent during combat operations, but that does not mean environmental considerations can be ignored or that they “go away.” Units must plan for environmental considerations prior to conducting training. This section focuses on how environmental considerations fit into the planning cycle and how to identify where specific actions take place.



**Figure 2-1. Integrating Environmental Considerations Into Unit Planning/Training**

a. Assessment. The planning process begins with assessment. In-depth assessment determines a strategy to improve training proficiency on specific weaknesses and plan sustainment training on demonstrated strengths. Assessment links the evaluation of completed training to the planning of upcoming training. Commanders must assess the unit's internal and overall status of the environmental training program and unit proficiency.

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b. Long-Range Planning. At the battalion level, long-range planning starts with unit assessment and is the basis for the long-range calendar. Resources, such as major training areas, ammunition, and fuel, are allocated, and shortfalls are identified. The long-range plan synchronizes supporting units and agencies so that effective training events can be properly executed. Platoon leaders use risk management, review SOPs, and ensure that the personnel receive the correct tools to avoid/mitigate environmental damage. Environmental considerations are addressed, and methods are developed to overcome problems so that effective training can be accomplished. Items that require an environmental focus during this phase include the following:

- Conducting a reconnaissance of the training site.
- Assessing the environmental risk.
- Coordinating with the installation environmental staffs.

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- Reviewing the plans and SOPs.
- Obtaining clearance and land use permits.
- Conducting environmental skills training.
- Requesting special equipment or support.

c. Short-Range Planning. Short-range planning refines the long-range calendar. It defines in greater detail the broad guidance on training events and other activities on the long-range planning calendar and in the command training guidance. During short-range planning, leaders review existing procedures, issue specific environmental guidance, update the risk assessment matrices and the unit SOPs, and train their soldiers on new environmental-protection procedures. Activities that require an environmental focus during this phase include—

- Briefing the commander and his staff.
- Conducting a reconnaissance of the training site.
- Obtaining maps or overlays indicating environmentally sensitive areas.
- Coordinating with the environmental-management office to identify recent changes in environmental-conditions.
- Planning for HM and HW storage and transport.
- Reviewing spill prevention measures.
- Modifying plans as necessary.

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d. Near-Term Planning. Near-term planning defines the specific actions required to execute the short-range plan. It is the final phase of planning before the execution of training. During this phase, key leaders inspect equipment and ensure that soldiers perform maintenance and preventive-maintenance checks and services (PMCS) before the field exercise. The environmental focus is on—

- Briefing unit personnel on environmental constraints and issues.
- Conducting rehearsals that include environmental considerations.
- Conducting a final reconnaissance of training sites to confirm the environmental-conditions prior to the execution of training.
- Checking the equipment.
- Ensuring that the unit SOPs are up-to-date and meet the requirements for the specific training sites where the training will be performed.
- Checking the spill response equipment.
- Modifying the plans as necessary.

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e. Preexecution Checks. During this phase, preexecution checks are developed. The responsibility for developing them is fixed during the short-range planning phase. Three major environmental considerations are:

- Has an environmental risk assessment been completed and have safety considerations been incorporated?
- Has a reconnaissance of the training ranges, sites, or facilities been conducted?
- Have leaders been briefed on environmental considerations?

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f. Preparation for the Execution of Training. Formal planning for training culminates with the publication of the training schedule. Informal planning and coordination continue until the training is performed. During rehearsals, platoon leaders ensure all safety and environmental considerations are met.

g. Execution. A unit executes training the same way it executes a combat mission. The chain of command is present, in charge, and responsible. During operations, platoon leaders ensure that environmental practices and preventive measures are employed.

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(1) Precombat Checks. Preexecution and precombat checks are key to ensuring that the trainers and the soldiers are adequately prepared to execute the training to standard. Precombat checks are the bridge between the preexecution checks and the execution of training. Leaders ensure the execution of precombat checks by—

- Briefing environmental considerations and listing them in the OPORD.
- Including environmental considerations in safety checks and briefings.
- Verifying the completion of precombat (before operations) PMCS (to include environmental considerations) on the vehicles; the weapons; communications; and nuclear, biological, and chemical (NBC) equipment.
- Checking and confirming the vehicle load plans and securing the cargo, especially HM.

(2) Presentation of Training. Through the presentation of training, leaders provide soldiers with specific training objectives and the evaluation methods to be used. Environmental constraints may alter the conditions under which the task is performed, but should never alter the task standards. Presentation of training includes the following:

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- Conducting environmental-awareness training.
- Supervising high-risk operations.
- Conducting periodic environmental assessments.
- Correcting problems on the spot.
- Avoiding off-limits areas.
- Preventing spills.

- Reporting damage accurately and in a timely manner.
- Removing HM and HW in a timely and appropriate manner.

h. Evaluation. The evaluation process is continuous and integral to training management. The AAR process includes environmental performance and should address all environmental considerations listed in the training evaluation plan. The evaluation and AAR should cover the following:

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- Ensuring environmental accountability.
- Ensuring HM and HW accountability.
- Including environmental issues in AARs.
- Developing environmental lessons learned.

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i. Unit Assessment. Leaders use evaluations and other feedback measures to assess soldier, leader, and unit proficiency. Based on evaluations, commanders adjust priorities and resources as necessary to synchronize all unit functions.

**2-2. Environmental-Specific Training and Resources.** All personnel require environmental-awareness training. It provides basic information on installation and unit environmental practices, leads to safer performance, and establishes an environmental ethic among soldiers. In addition to participating in environmental-awareness training, individuals with certain duties and responsibilities require specialized training. HM and HW training is addressed separately from routine environmental-training requirements.

**2-3. Platoon Leaders' Responsibilities.** The term "platoon leader" refers to the designated platoon leader, the platoon sergeant, or any individual designated as the leader in the absence of the first two. Army environmental responsibilities center on building an environmental ethic in soldiers. This is accomplished by training and counseling and by enforcing responsibility in subordinates. *Table 2-1* identifies leader responsibilities within a platoon.



**Table 2-1. Leader Responsibilities Within a Platoon**

<b>Platoon Leader/<del>Platoon Sergeant</del></b>	
1.	Apply environmental-awareness to daily activities while making sound decisions that will not harm or that will minimize damage to the environment.
2.	Communicate the Army's environmental ethic to soldiers while training them to be good environmental stewards.
3.	Develop and sustain a positive and proactive commitment to environmental-protection in subordinates.
4.	Analyze the influence of environmental factors on mission accomplishment.
5.	Integrate environmental considerations into unit activities (include identifying the environmental risks associated with unit tasks).
6.	Protect the environment during all activities.
7.	Counsel soldiers on the need to protect the environment and the possible consequences for violating environmental laws and regulations.
8.	Incorporate environmental considerations during AARs.
9.	Support the Army's recycling program.
10.	Report HM and HW spills.
11.	Ensure that soldiers are familiar with unit SOPs, and supervise their compliance with environmental laws and regulations.
12.	Plan, conduct, and sustain environmental actions and training.
13.	Assess the environmental risk associated with individual tasks.
14.	Train peers and subordinates to identify the environmental effects of plans, actions, and missions.

Deleted: Platoon Sergeant

**2-4. Summary.** It is essential to include environmental considerations early and throughout the training cycle. The integration of environmental considerations is an easy fit that causes no functional change in battle-focused training. Commanders are required to implement environmental-specific training to include environmental-awareness; spill prevention and response; HM and HW transportation, storage, and turn-in procedures; accountability; and management. Incorporating environmental considerations into training should not change the standard procedures or considerations that a unit and its leaders apply to an operation.

## LESSON 2

### PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you complete the exercise, check your answers with the answer key that follows. If you answered any item incorrectly, review the part of the text that contains the portion involved.

1. What is battle-focused training?
  - A. An extension of good HM management
  - B. A concept used to derive training requirements from wartime missions
  - C. All of the above
  - D. None of the above
2. The long-range planning process includes which of the following?
  - A. Requesting special equipment or support
  - B. Coordinating with the installation environmental staffs
  - C. Obtaining clearance and land use permits
  - D. All of the above
3. Which of the following does short-range planning require?
  - A. Conducting a reconnaissance of the training site
  - B. Briefing the commander and his staff
  - C. Planning for HM and HW storage and transport
  - D. All of the above
4. What is near-term planning?
  - A. A part of battle-focused training
  - B. A part of the MDMP
  - C. A part of short-term planning
  - D. None of the above
5. Who is required to take environmental-awareness training?
  - A. Only the ECO
  - B. The commander and his staff
  - C. All personnel
  - D. Platoon leaders

## **LESSON 2**

### **PRACTICE EXERCISE**

#### **ANSWER KEY AND FEEDBACK**

1. What is battle-focused training?  
B. A concept used to derive training requirements from wartime missions (para 2-1)
2. The long-range planning process includes which of the following?  
D. All of the above (para 2-1b)
3. Which of the following does short-range planning require?  
D. All of the above (para 2-1c)
4. What is near-term planning?  
A. A part of battle-focused training (para 2-1d)
5. Who is required to take environmental-awareness training?  
C. All personnel (para 2-2)

**LESSON 3**  
**SELF-ASSESSMENT**  
**OVERVIEW**

LESSON DESCRIPTION:

This lesson discusses the US Army's environmental self-assessment program.

TERMINAL LEARNING OBJECTIVE:

- ACTION:** You will learn about the Army's environmental self-assessment program.
- CONDITION:** You will be given the material contained in this lesson.
- STANDARD:** You will correctly answer the questions on the practice exercise at the end of the lesson.
- REFERENCES:** The material contained in this lesson was derived from AR 200-1, Title 40 Code of Federal Regulation (CFR), FM 3-100.4, and TVT 5-56.

**INTRODUCTION**

Environmental programs require guidance and support from the chain of command. In developing a program, leaders incorporate environmental-protection measures into unit SOPs and ensure that personnel receive the appropriate environmental training. Major Army Commands (MACOMs) conduct environmental assistance visits to ensure that the installations comply with the appropriate environmental laws. Leaders coordinate with the installation environmental office and their higher HQ for assistance visits and compliance audits within the unit area. Platoon leaders or their designated representatives can also conduct self-assessments to determine how well their platoon is following environmental-protection measures at the unit level.

**3-1. Platoon Leaders' Responsibilities.** The completion of a risk management work sheet may indicate that the platoon has some major environmental problems. In such a case, an overall evaluation of the status of the platoon's compliance with laws and regulations is needed.

- Federal, state, and local regulatory agencies conduct formal compliance audits, and spot checks on installations and report their findings to the military chain of command.
- The Army's Environmental Compliance Assessment System (ECAS) provides installation inspections.

**3-2. Environmental-Compliance.** The Army determines the environmental-compliance status in two ways: installations conduct internal evaluations, while MACOMs conduct external evaluations. Federal, state, or local inspections may result in civil and criminal penalties for noncompliance with environmental laws and regulations. Self-assessments may be conducted using the installation status report software, or the platoon leaders may choose to use the general checklist found in FM 3-100.4, Appendix H.

a. Federal and State Regulatory Inspections. Regulatory agencies have the legal right and responsibility to inspect units and facilities to ensure compliance with environmental laws and regulations. These agencies usually coordinate inspections through the environmental office of the installation. These agencies may conduct inspections without prior notice. The Environmental Protection Agency (EPA) and Federal Facilities Compliance Act (FFCA) set inspection frequency guidelines, usually once a year. Inspections in other programs may occur at different frequencies. Installations or units with specific major problems can expect frequent follow-up inspections, which may include checks of training records and documentation, reviews of permits, and inspections of storage facilities.

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b. Environmental Compliance Assessment System. Many environmental regulations require self-regulation, which requires the installation to monitor its own programs and notify the regulatory agency if problems occur. The Army established the ECAS as a means of achieving, maintaining, and monitoring compliance with the applicable environmental laws. The Army also uses compliance assessments as a vehicle to attain environmental-program goals. The Army conducts internal compliance assessments for its installations (which review all the aspects of the installation environmental status). Units participate in the assessments.

**3-3. Supporting the Company Environmental Program.** A company environmental program should ensure that all personnel have environmental-awareness training and a designated environmental compliance officer (ECO). The ECO should be properly trained and qualified. The company should have an SOP that addresses environmental issues and procedures. Leaders should meet with key higher unit staff counterparts and installation personnel who handle the environmental issues. It is the leaders' responsibility to determine the requirements of the company concerning environmental training, qualifications, certification of unit personnel, and any common environmental problem areas or ECAS inspections that may affect the unit. Company leaders should meet with installation personnel and higher unit staff to establish these requirements. The following are unit or installation environmental programs that units develop or adopt.

a. Hazardous-Material Management. The Army's objective is to minimize health hazards and environmental damage caused by the use and misuse of HM. HM is one that, because of its quantity, concentration, physical, chemical, or infectious characteristics may—

- Cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illnesses.
- Pose a substantial present or potential hazard to human health or to the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

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Below are examples of what platoon leaders should do when their platoon handles HM. A complete list may be found in FM 3-100.4, Chapter 6.

- Ensure the best management practices for all HM.
- Comply with all the applicable regulations, policies, and procedures.
- Order and use only what HM is required; do not stockpile HM.
- Conserve resources through recovery, recycling, and reuse.

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- Establish a training program, and ensure that the required personnel are properly trained.

b. Hazardous Waste. HW is waste that, because of its quantity, concentration, or characteristics may pose a substantial hazard to human health or to the environment. Hazardous substances, which result in some waste generation, are an unavoidable part of Army activities. The proper handling and disposal of this waste will minimize danger and ensure the safety of people and the environment. The following are some examples of what leaders should do if they deal with HW. A complete list may be found in FM 3-100.4, Chapter 6.

- Establish a HW management program to comply with HW regulations.
- Ensure that the HW is properly identified. Label stored waste and the containers that hold HW with the correct danger and warning signs.
- Ensure that the waste does not accumulate beyond allowable quantity and time limits.
- Maintain proper HW records and report the records periodically, as required by the EPA.

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c. Hazard Communications (HAZCOM). HAZCOM is the leaders and supervisors' responsibility concerning the possible hazards in the workplace and the identification of those hazards and the necessary precautions to their soldiers. An effective HAZCOM program will assist leaders to determine what hazardous chemicals are present in their units, how to protect their soldiers from the hazards those chemicals present, and how to properly store and use those chemicals. The installation safety officer is the point of contact (POC) for most HAZCOM matters, the material safety data sheet (MSDS) program, and the HAZCOM training program. Some examples of what platoon leaders should do to support HAZCOM are as follows:

- Ensure that subordinates receive adequate training on HMs to which they are exposed, according to the Occupational Safety and Health Agency (OSHA) requirements.
- Maintain an up-to-date list of all HM and HW known to be present in their area.
- Ensure that containers of hazardous substances are labeled, tagged, or otherwise marked to identify the material and warn soldiers of hazards.
- Maintain an MSDS for every HM in their unit, and ensure that soldiers are trained to recognize, understand, and use the MSDS and labels for the HM to which they are exposed, as well as use the proper procedures when working with hazardous substances.
- Refer to the applicable HAZCOM references.

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d. Pollution Prevention and Hazardous-Waste Minimization (HAZMIN). HAZMIN means reducing the amount and the toxicity of the HW generated or produced. Pollution prevention means reducing the amount of material, whether it is hazardous or not. Platoon leaders should ensure that their units conduct inventory control. Units should not stockpile HM. If the HM has an expired shelf life, it can cost more to dispose of the item than it did to obtain it, since the HM will now have to be handled as HW. Product substitution is an easy way to reduce HW generation. Use nonhazardous or less hazardous substitutes if available. A process change can reduce the amount of HW generated, but it will still need to be treated as HW. The applicable pollution prevention and HAZMIN references can be found in FM 3-100.4.

e. Recycling Program. The Army promotes separating products, substituting materials, changing procedures to avoid the use of hazardous substances (source reduction), and recycling to reduce the volume of solid waste. Most installations have a recycling program. Recyclable materials include: computer printouts, corrugated cardboard, newspaper, aluminum cans, plastics, oil, solvents, glass, steel, and brass. Check with installation personnel to verify what materials are being recycled on your installation.

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f. Spill Prevention and Response Plan. It is Army policy and a Clean Water Act (CWA) requirement to prevent oil and hazardous-substance spills and to provide prompt response to contain and clean up spills. The discharge of oil or hazardous substances from installations, vehicles, aircraft, and watercraft into the environment without a discharge permit is prohibited. Every reasonable precaution should be taken to prevent spills of oil and hazardous substances. AR 200-1, FM 3-100.4, and Title 40 CFR refer to the applicable spill prevention references. A few examples of what a unit leader should do are listed below. A more extensive list can be found in FM 3-100.4, Chapter 6.

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- Provide facilities in which to store, handle, or use oils and hazardous substances, and implement proper safety and security measures.
- Appoint a spill coordinator and members of a unit spill response team. Members and their roles on the team must be documented in writing.
- Maintain an up-to-date spill response plan. This requirement is generated by the installation.
- Maintain an up-to-date inventory of all HM/HW; provide a copy to the post fire department for use in case of a chemical fire.

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**3-4. Program Assessment.** Environmental-compliance status can be determined through a formal inspection by a regulatory agency. It can also be determined through self-inspections using ECAS checklists as a guide. Non-Army regulatory agencies have the legal right and responsibility to inspect units and individual facilities and actions to ensure compliance.

a. Once a year, EPA inspectors conduct spot inspections of the installations, often without notice. Local and state inspectors also conduct frequent inspections. Inspection frequency guidelines have been established under the EPA Federal Facility Compliance Strategy.

b. The Army established the ECAS as a means of achieving and monitoring compliance with the applicable federal, state, regional, and local environmental laws and regulations. If a platoon deals with HM or HW, leaders are required to conduct internal inspections. The installation HW management plans should normally contain information sufficient to develop an inspection plan for HW generation points and accumulation sites at the unit level. The platoon leader may also request a copy of the ECAS protocol to assist in developing inspection and record keeping plans and to conduct an internal and self-compliance assessment.

**3-5. Environmental Self-Assessment.** Unit leaders use a checklist to assess the environmental-compliance status. FM 3-100.4, Appendix H, has a general checklist that leaders may use. Higher-level staffs within the chain of command or the installation environmental office may have similar aids specific to a unit or a location. Unit leaders, with the assistance of the installation environmental staff, determine the frequency of the self-assessment checks. The commander ensures that the unit environmental program management system is effective through the self-assessment.

a. Management Practices. Many environmental requirements at the platoon level are simply an extension of the existing unit management practices. The following are considered good management practices:

- **Using the Army's Hazardous Substance Management System (HSMS).** The HSMS applies centralized management and strict inventory control to reduce the use and the disposal requirements for hazardous substances by tracking HM.
- **Conducting good housekeeping.** Good housekeeping is another basic management practice. It involves areas such as maintenance, operations, and training. An example of good housekeeping is recycling. Recycling diminishes solid waste and helps eliminate unauthorized disposal of some types of HW. Another example is monitoring the shelf life of HM. HM disposal is expensive and carries with it a significant administrative burden. When HM has a shelf life, use the first-in, first-out (FIFO) rule. This helps to reduce the volume of the disposal of out-of-date HM.
- **Using SOPs.** SOPs are an effective management practice, requiring soldiers to understand and follow standard practices. Platoon leaders can ensure that the unit applies a well-written SOP addressing environmental issues and procedures.
- **Designating an Environmental-Compliance Officer.** Commanders, down to the company, troop, and battery levels, must designate an ECO. AR 200-1 requires unit commanders to appoint an ECO in writing and to provide training for the ECO. The ECO coordinates with the installation environmental staff and ensures that the unit complies with environmental laws and regulations.
- **Training.** It is essential that all platoon personnel complete environmental-awareness training. Soldiers who require special environmental training must also be identified and trained. The installation environmental office and environmental staff assist the subordinate commanders to determine the specific environmental-training requirements.
- **Labeling containers.** Labeling HM and HW is a legal requirement. The installation or the shipping environmental guidelines specify the labeling requirements. Materials not technically classified as hazardous, such as cleaning supplies, lubricants, and paint, must also be labeled. Each unit must develop and enforce procedures to maintain complete records of the environmental actions and activities they perform.

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b. Maintenance. Unit maintenance activities have significant potential for environmental impact. The Army has environmental programs that affect maintenance operations in several ways. Some specific areas of concern are as follows:

- **Spill Prevention and Response.** Army policy and federal law require units to prevent spills of oil and hazardous substances and to provide prompt response to contain and clean up any such spills.
- **HM/HW Storage and Handling.** The unit prescribed load list (PLL) section controls requisitions and receipts for HM and prepares documentation for turn-in of HW.
- **Refueling.** Refueling operations create a significant potential for POL spills and fire hazards. Units must ensure that their SOP includes adequate procedures to prevent and respond to

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spills.

c. Supply. Unit supply personnel account for all materials during HM and HW requisition, transportation, storage, and disposal. Platoon leaders ensure their supply personnel observe stringent HM supply economy measures by ordering only the minimum amount of HM needed and, when possible, ordering biodegradable, environmentally safe materials. When storing products, ensure the use of stock rotation to minimize the turn-in of out-of-date material. Leaders also ensure that the supply personnel turn-in or dispose of HM and HW according to the local regulations.

d. Nuclear, Biological, and Chemical. NBC HM is used in NBC defense and training. Unit NBC specialists exercise caution when storing and handling these materials. Leaders ensure that the personnel dispose of the materials according to the local requirements and that the unit has a spill response program in place that addresses NBC activities.

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e. Unit Mission Training. Platoon leaders must exercise caution with noise pollution, air pollution, waste disposal, spill protection, water pollution, and cultural and natural resource protection. Check with the installation training staff concerning the training area restrictions, and coordinate for environmental guidance in advance due to differing local, state, or HN regulations.

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f. Communications. Modern communication systems use many types of batteries. Used batteries are considered HW in most states, and therefore, unit personnel ensure that the SOPs specify storage and disposal procedures for each type of battery in the unit.

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g. Operations. Operations do not automatically suspend environmental considerations. Higher commanders' guidance is critical to determine the risk that will be applied to any operation. Leaders may use the risk management principles and the five-step process for guidance.

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h. Special Requirements. In addition to meeting the previously stated requirements, some military units, such as the National Guard (NG) and the Reserve Component (RC) units and units stationed in foreign countries, must follow additional environmental guidelines. Check with the unit ECO and the supporting HQ for more information.

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**3-6. Summary.** Unit commanders are responsible for building and implementing a unit environmental program. Assistance is available from the installation, garrison, and base staffs as well as from the unit higher HQ. Tools to assist platoon leaders also include the generic checklists available for the units to assess their compliance with environmental laws and regulations in their daily operations and activities. One generic checklist may be found in FM 3-100.4, Appendix H. ECAS checklists provide a more comprehensive assessment. Leaders must remember that self-assessment is only a guide and does not provide the final determination of compliance.

## LESSON 3

### PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer for each item. When you complete the exercise, check your answers with the answer key that follows. If you answered any item incorrectly, review the part of the text that contains the portion involved.

1. What does the acronym/abbreviation “ECAS” stand for?
  - A. Environmental Conservation Assessment System
  - B. Emergency Compliance Assessment System
  - C. Environmental Compliance Assessment System
  - D. Environmental Compliance Assessment Standard
2. What may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness?
  - A. HM
  - B. An ECO
  - C. None of the above
  - D. Both A and B
3. If a platoon deals with HM, leaders should do which of the following?
  - A. Comply with all the applicable regulations, policies, and procedures
  - B. Ensure the best management practices for all HM
  - C. Establish a training program, and ensure that the required personnel are properly trained
  - D. All of the above
4. Computer printouts, corrugated cardboard, newspaper, aluminum cans, plastics, oil, solvents, glass, steel, and brass are \_\_\_\_\_.
  - A. HM
  - B. Recyclable materials
  - C. MSDS
  - D. None of the above
5. Which of the following are good management practices?
  - A. Conducting good housekeeping
  - B. Labeling containers
  - C. Designating an ECO
  - D. All of the above

### **LESSON 3**

#### **PRACTICE EXERCISE**

#### **ANSWER KEY AND FEEDBACK**

1. What does the acronym/abbreviation “ECAS” stand for?  
  
C. Environmental Compliance Assessment System (para 3-2)
2. What may cause or significantly to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness?  
  
A. A HM (para 3-3a)
3. If a platoon deals with HM, leaders should do which of the following?  
  
D. Both A and B (para 3-3a)
4. Computer printouts, corrugated cardboard, newspaper, aluminum cans, plastics, oil, solvents, glass, steel, and brass are \_\_\_\_\_.  
  
B. Recyclable materials (para 3-3e)
5. Which of the following are good management practices?  
  
D. All of the above (para 3-5a)

## **APPENDIX A**

### **LIST OF COMMON ACRONYMS**

AAR	after-action report
ACCP	Army Correspondence Course Program
AO	area of operation
AR	Army Regulation
C2	command and control
CCIR	commander's critical information requirement
CFR	code of federal regulation
COA	course-of-action
CONPLAN	contingency plan
CWA	Clean Water Act
DOD	Department of Defense
E	extremely high
EBS	environmental-baseline survey
ECAS	Environmental Compliance Assessment System
ECO	environmental-compliance officer
ECR	environmental-conditions report
EN	engineer
EPA	Environmental Protection Agency
FFCA	Federal Facilities Compliance Act
FIFO	first-in, first-out
FM	field manual
FRAGO	fragmentary order
FTX	field training exercise

HAZCOM	hazard communications
HAZMIN	hazardous-waste minimization
HN	host nation
HM	hazardous material
HSMS	Hazardous Substance Management System
HQ	headquarters
HW	hazardous waste
IPB	intelligence preparation of the battlefield
JTF	joint task force
MACOM	major Army Command
MDMP	military decision-making process
METT-TC	mission, enemy, terrain, troops, time available, and civilian consideration
MSDS	material safety data sheet
NBC	nuclear, biological, and chemical
NEPA	National Environmental Policy Act
NG	National Guard
OEBGD	overseas environmental-baseline guidance document
OPLAN	operation plan
OPORD	operation order
OPSEC	operations security
OSHA	Occupational Safety and Health Agency
para	paragraph
PLL	prescribed load list
PMCS	preventive-maintenance checks and services
POC	point of contact

POL	petroleum, oils, and lubricants
RCRA	Resource Conservation and Recovery Act
RC	reserve component
ROE	rules of engagement
S2	Intelligence Officer (US Army)
S3	Operations and Training Officer (US Army)
SME	subject matter expert
SOP	standing operating procedures
TC	training circular
TM	technical manual
TMC	training management cycle
TSP	training support package
TVT	television tape
US	United States
WO	warning order
XO	executive officer

## APPENDIX B

### RECOMMENDED READING LIST

The following publications provide additional information about the material in this subcourse. You do not need these materials to complete this subcourse.

- AR 200-1. *Environmental-Protection and Enhancement*. 21 February 1997.
- AR 200-2. *Environmental Effects of Army Actions*. 23 December 1988.
- AR 200-3. *National Resources—Land, Forest, and Wildlife Management*. 28 February 1995.
- AR 200-4. *Cultural Resources Management*. 1 October 1998.
- AR 200-5. *Pest Management*. 29 October 1999.
- FM 3-100.4. *Environmental Considerations in Military Operations*. 15 June 2000.
- FM 7-10. *The Infantry Rifle Company*. 14 December 1990.
- FM 25-101. *Battle Focused Training*. 30 September 1990.
- FM 100-14. *Risk Management*. 23 April 1998.
- FM 101-5. *Staff Organization and Operations*. 31 May 1997.
- FM 101-5-1. *Operational Terms and Graphics*. 30 September 1997.
- TC 3-34.489. *The Soldier and the Environment*. 8 May 2001.
- Title 40, CFR. *Protection of Environment*. 1 July 2002.
- TM 38-410. *Storage and Handling of Hazardous Materials*. 13 January 1999.
- TSP 051-250-1001. *Comply with Host Nation, Federal, State, and Local Environmental Laws and Regulations*. 2 April 1997.
- TVT 5-56. *Operations Stewardship—The Soldier and the Environment*. 20 August 1993.
- US Army Environmental Strategy into the 21<sup>st</sup> Century*. Army Environmental Policy Institute. 1992.